FURTHER NOTES ON NEW BRUNSWICK BIRDS.

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Plates V-VI.

RENEWED field work by the authors during the summers of 1917 and 1918, in the same region of northern New Brunswick as that dealt with in previous papers, has resulted in the securing of certain additional data concerning the bird life of that region, that would seem to justify publication.

Since in our previous papers definite locality was not given, it may be here stated that all records, in previous papers as well as the present one, refer to Northumberland County. A large part of this region is wild and undeveloped. Township boundaries are difficult to locate, and it is therefore impracticable to attempt more detailed locality references.

In 1917 the authors were in the field from May 16 to July 2. Mr. T. F. Wilcox was a member of the party from June 15 to 30, and Messrs. George H. Stuart, 3d, and Samuel Scoville, Jr., from June 18 to 25. Earlier arrival in the field was undertaken for the purpose of studying breeding habits of the early nesting species, but the season here, as elsewhere, was extremely backward, and nesting dates by no means normal. Snow banks lay everywhere in the woods, often to a depth of five and six feet, at the time of our arrival, and lingering snow was seen in the woods as late as June 5.

Field work for 1918 occupied the period between June 11 and July 1. The season was apparently a little earlier than normal. Mr. George H. Stuart, 3rd, was again a member of the party from June 15 to 24, and Dr. Henry F. Merriam from June 16 to 29.

Additional Birds Noted.

The last two seasons' work has added twenty-three species to our previous list of birds observed, as follows:

Rissa tridactyla tridactyla. Kittiwake.— A flock of about twenty of these birds was observed on a point of beach, June 2, 1917.

¹ The Tennessee Warbler in New Brunswick, Auk, January, 1916, pp. 1–8; Some Summer Birds of Northern New Brunswick, Auk, July, 1917, pp. 265–275.





Nest of the Cape May Warbler,
Wilson's Snipe on its Nest.



Sula bassana. Gannet.— Considerable numbers noted off the beaches, June 2, 1917.

Clangula clangula americana. Golden-Eye.— On our arrival, June 11, 1918, a nest containing ten eggs, mostly pipped and about hatching, was shown to us by a young man living near by. The eggs reposed in a beautiful and profuse bed of down, at the bottom of a hollow about two feet deep and eight inches in diameter, in the broken top of a yellow birch, dead, save for a thin, live outer shell, standing on a fence line between woods and an open field.

Oidemia deglandi. White-winged Scoter.— Two noted May 17, 1917.

Branta canadensis canadensis. Canada Goose.—Three noted, May 16, 1917, and a few thereafter, two being seen as late as May 28.

Nycticorax nycticorax nævius. Black-crowned Night Heron.—Two birds noted June 22, 1918, and on several subsequent dates. Doubtless breeds sparingly.

Philohela minor. Woodcock.— The omission of the Woodcock from our previous list of birds noted was an oversight, as one of these birds was observed June 6, 1916. One was also noted June 14, 1917. Both records were made at the same place, a muddy island, covered with willow and alder bushes, and this was the only locality where Woodcocks were seen.

Pisobia minutilla. LEAST SANDPIPER.

Ereunetes pusillus. Semipalmated Sandpiper.—One or both of these sandpipers, in a flock numbering some thirty individuals, were observed, May 20, 1917, and on other occasions, up to May 27.

Totanus flavipes. Yellow-legs.— Two noted, May 17, 1917.

Canachites canadensis canace. Canada Spruce Partridge.—A brood of half grown young noted, June 21, 1917. Reported as formerly abundant, this bird appears to be now rather scarce in this region.

Zenaidura macroura carolinensis. Mourning Dove.— One secured, in scant scrub brush, on beach, May 17, 1917.

Circus hudsonicus. Marsh Hawk.— One noted, May 18, 1917, and on one or two subsequent occasions.

Falco columbarius columbarius. Pigeon Hawk.—One observed, May 16, 1917.

Falco sparverius sparverius. Sparrow Hawk.—Several noted during 1917 visit. One observed entering old Flicker excavation, May 18, 1917, was doubtless nesting there.

Archilochus colubris. Ruby-throated Hummingbird.— A nest containing two fresh eggs was found on June 23, 1917, built on a drooping dead limb of a spruce about twenty feet from the ground, in open woods, and another, in similar situation, on June 25. We met with Hummingbirds quite commonly, both in 1917 and 1918.

Empidonax trailli alnorum. Alder Flycatcher.—Common on some of the mud flats and islands where suitable alder growth occurs. Doubtless breeds.

Empidonax minimus. Least Flycatcher.— Found breeding quite commonly on mud flats and islands, among willow and alder growth. Two nests, each containing four fresh eggs, were found, on June 15, 1918.

Loxia curvirostra minor. Crossbill.— A flock of twenty or thirty birds noted, on June 25, 1917, and a similar flock on June 18, 1918.

Plectrophenax nivalis nivalis. Snow Bunting.—Several noted, May 16, 1917.

Spizella monticola monticola. Tree Sparrow.—Two were seen on May 16, 1917, and a few on May 28.

Vireosylva olivacea. Red-eyed Vireo.—Quite common in suitable localities in 1917 and 1918, where, for some reason, it had not been previously noted.

Dendroica tigrina. Cape May Warbler.— Two males and a female were noted on June 3, 1917, and birds of this species were observed not uncommonly thereafter throughout that season. In 1918 they were found quite common and well distributed in all suitable localities. Four nests were located, position and general conditions being remarkably uniform, and agreeing also, in the main, with the nest found at Lake Edward, Quebec, by Dr. Merriam, in 1916.¹ They were in rather high spruce trees, within two or three feet of the extreme top, usually as near the top as suitable site and cover could be secured. All were built in very thick foliage, against the main stem of the tree, resting lightly on twigs and foliage, but fairly secured thereto by webs, and were entirely invisible from the ground, in every case.

On June 22 the first nest held six eggs, two of which were without incubation, the other four being fairly well incubated. The female sat closely until the climber was within two or three feet of the nest, when she dropped almost perpendicularly to the ground. No pounding, jarring or shaking of the tree served to cause her to leave the nest, even for a moment. This nest measured $4\frac{1}{2}$ by $3\frac{3}{4}$ inches outside diameter, and $2\frac{1}{4}$ inches inside diameter; $2\frac{1}{2}$ inches outside depth, and $1\frac{1}{2}$ inches inside depth. Exteriorly it was composed of green moss from dry woods ground, interwoven with fine spruce twigs, dry grasses, a few bits of club moss and vegetable down; interiorly of fine dead grass, with a thick lining of hair, feathers and a little fur, the neat and smooth felting of the lining forming a conspicuous feature of differentiation from nests of Blackpoll and Myrtle Warblers. This nest was about thirty-five feet up, in a thick foliaged spruce tree, standing * in a semicircular opening in the woods, beside a public road, from which, save for the thick foliage in which it was situated, the nest would have been plainly visible. The six eggs measured: $.65 \times .49$, $.66 \times .48$, $.66 \times .50$, $.65 \times .47$, $.66 \times .47$, $.56 \times .42$. They were white in ground color, well marked with blotches, spots and specks of reddish-brown, and a few fine dots of very dark purple or black.

On June 26, the second nest, about thirty-five feet up in a thick, medium-

¹ Nesting of Cape May Warbler at Lake Edward, Quebec, Auk, October, 1917, pp. 410-413.

sized spruce, standing on the border of woods and clearing, contained six fresh eggs. Both nest and eggs were very much like those described by Dr. Merriam.

On June 29, the third nest held five eggs, which seemed to be the complete laying. This nest was about forty feet up, in a thick spruce, in a fairly open spot in the woods, near a trail. Nest and eggs were much like the second.

The fourth nest held six fresh eggs on June 29. It was about forty feet up, in a thick spruce, in fairly open woods. The material was the same as in the first, with the addition of several dead pine needles in the exterior. It measured $3\frac{3}{4}$ by $3\frac{1}{4}$ inches, outside diameter, 2 inches inside diameter, 2 inches outside depth, by $1\frac{3}{4}$ inches inside depth. The eggs measured $.67 \times .53$, $.65 \times .52$, $.68 \times .53$, $.66 \times .53$, $.67 \times .53$, $.67 \times .52$. In color they were much like the second and third sets, and the one described by Dr. Merriam.

It appears to be characteristic of many of these birds that the nest tree selected is fairly openly situated, at least as to one side, although this is not always the case, since other pairs watched were very evidently nesting in trees where it was much more difficult to detect them. The extent to which our experience in the case of the four nests located in 1918 agreed with that of Dr. Merriam in 1916, tends to suggest that nesting conditions as he found and described them are more typical of the Cape May Warbler than those previously described, at least in the localities where we studied them.

Dendroica estiva estiva. Yellow Warbler.— One seen, June 13, 1917.

Supplementary Notes.

Notes on species treated in our previous paper are amplified by the results of the past two seasons' work as follows:

Gallinago delicata. Wilson's Snipe.—A nest with four eggs, well advanced in incubation, was found on June 16, 1917, and with some difficulty the bird was photographed from a crude and very imperfect blind of cedar branches, despite almost continuous showers. Another nest with four eggs, incubation one half or more, was found in the same bog, June 12, 1918. Only the single pair of birds was positively ascertained to inhabit this bog, and none were observed elsewhere in the region.

Ægialitis meloda. Piping Plover.— In 1917 nesting had commenced by May 28, when one nest with one egg and another with two eggs were found. A total of twelve nests with full complements of four eggs each were observed during the season. Nesting was already well under way when we reached the locality on June 11, 1918, four nests with four eggs each being observed that day, and twelve more with complete layings, four eggs each, some well incubated, on June 13. A total of eighteen nests with complete sets of eggs was noted during the season.

Asio flammeus. Short-eared Owl.—A nest containing six well incubated eggs was found, June 11, 1918, on the same beach where the two nests with young were located on June 19, 1915, and within a few feet of the site of one of the earlier nests.

Dryobates villosus leucomelas. Northern Hairy Woodpecker.—A nest with young was found in a dead maple stub in a burnt barren, on May 29, 1917. On May 30 of the same year another nest about fifteen feet up in a dead maple stub in a similar situation, contained four eggs, very slightly incubated. On June 9, 1917, a third nest in a cedar telephone pole beside a public road was examined. It was at a height of about nine feet; cavity $14\frac{1}{2}$ inches deep; entrance $2\frac{1}{8}$ inches in height by $2\frac{1}{4}$ inches in width. This nest contained four nearly fresh eggs.

Picoides arcticus. Arctic Three-toed Woodpecker .-- One of the objects of the early visit to New Brunswick in 1917 was further investigation of the nesting of this species. These woodpeckers, however, appeared to be markedly affected by the general lateness of the season, and at the time of our arrival it is evident that some of them had not commenced digging nest excavations. On May 22 a nest hole was located in a dead maple stub, near the edge of a large burnt barren, and a short distance from the edge of mixed woods. The male was in the cavity at the time of this visit, and the female came to the stub during the time of our stay. On the following day we again visited the nest stub, and with a large auger bit "tapped" the nest hole, finding that no eggs had yet been laid. The male was again in the hole and remained in it until tapping operations were well under way. The tap hole was carefully plugged, and plug and surrounding surface rubbed with soft, rotten wood. This nest was again visited on May 30, on which occasion the male was found sitting on four eggs, incubation having just commenced. The eggs having been removed, the plug was replaced, and while we were still close to the stub the male re-entered and had not emerged when we lost sight of the stub, as we left the locality. During this visit the female was not seen. It may be surmised that when she returned and discovered the condition of affairs, her worthy spouse had some explaining to do.

On June 19 we again visited this nest and found the male looking out of the entrance, as we approached. The nest was found to contain five well incubated eggs. The birds did not again use the nest, although the plug was replaced.

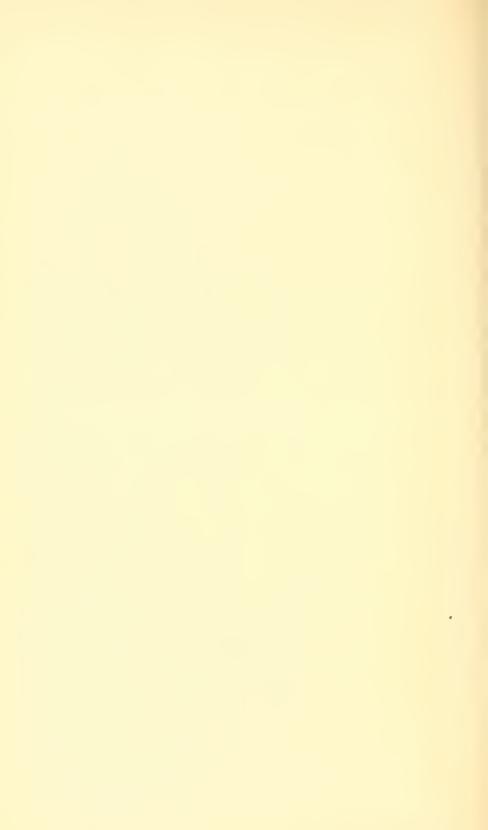
On May 25 we succeeded in "lining" the various flights of a watched female bird, to where a nest excavation was well under way in a live balsam with dead heart, some two hundred feet into the mixed woods, from the edge of a clearing covered with stubs and small second growth. This excavation was at a height of only about four feet.

On June 6 the female bird was found sitting on three slightly incubated eggs. No difficulty was experienced in getting all the photographs desired of this bird about the nest entrance and looking out of it: in fact it was much more difficult to prevent her entering too quickly, even while





ARCTIC THREE-TOED WOODPECKER AND NEST.



we were operating at a distance of ten feet, it often being necessary for one to stand beside the tree, and even tap on it, to detain her.

The nest located on May 22 was at a height of about ten feet. The cavity measured $10\frac{1}{2}$ inches from the lower edge of entrance to bottom. The entrance measured $1\frac{5}{8}$ inches in height and $1\frac{3}{4}$ inches in width. The first set of four eggs measured: $.99 \times .77$, $1.01 \times .79$, $.99 \times .79$, $1.00 \times .76$; the second set of five eggs measured: $.99 \times .80$, $.97 \times .77$, $.98 \times .80$, $.95 \times .76$, $.97 \times .80$.

Within some five hundred feet of the nest that was located on May 25, there was a nest hole of the year before, quite possibly having belonged to the same pair of birds. It was also in a live balsam with a dead heart, at a height of about eight feet. One old nest hole, which quite evidently belonged to this species, was only about two feet from the ground. On June 6 a nest hole about one half completed, was found in a live balsam with dead heart, in open, mixed woods. For some reason this had been abandoned. Some four or five additional pairs of these birds were observed during the first two weeks of June, but further nests were not located.

The somewhat limited data secured seem to give prominence to several facts in the nesting of this woodpecker in the region under consideration. Apparently nest sites are selected indiscriminately, in dead stubs in open cleared ground or burnt barrens, and in the woods, where nests are often in dead-hearted live trees. The birds have a remarkably strong attachment for their nests, as evidenced by re-laying in nest holes from which eggs had been removed, and their disregard of the immediate presence of intruders. The male evidently performs his full share of the work of incubation, as well as care of young. New nest holes are apparently dug each year, and these may not be in the immediate vicinity of nests of the previous year. The site selected tends to be low, only one nest having been noted at a height of over ten feet, while one, as noted, was as low as two feet. Entrances to nest holes are strongly beveled at the lower edge, forming a sort of "door-step," and more or less at sides and even top. While this is true in some cases with the Northern Hairy and some other woodpecker excavations which we have examined, it has not proved so frequent or pronounced. With experience, one can usually identify the nest hole of this species with comparative certainty, by this one feature.

Tyrannus tyrannus. Kingbird.— At least one pair noted each year. A nest containing a full complement of three eggs on July 1, 1918, was built in a dead spruce on a fence line.

Nuttallornis borealis. OLIVE-SIDED FLYCATCHER.— A nest found partly built, on a horizontal branch of a balsam, about thirty-five feet from the ground, in open woods, on June 19, 1918, contained two eggs on June 26. As no more eggs had been laid by June 29, it appeared that this was the full set.

Empidonax flaviventris. Yellow-bellied Flycatcher.— Additional nests were found, one on June 21 and two on June 27, 1918, each containing four eggs, one of the two latter sets being well incubated, the others fresh.